

METHOD AND APPARATUS FOR PREDICTIVELY QUANTIZING VOICED SPEECH WITH SUBTRACTION OF WEIGHTED PARAMETERS OF PREVIOUS FRAMES

BACKGROUND OF THE INVENTION

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[0001] This application is a continuation of U.S. Application Serial No. 09/557,252, filed on April 24, 2000 which is entitled "Method and Apparatus for Predictively Quantizing Voiced Speech" and currently assigned to the assignee of the present application.

Field of the Invention

[0002] The present invention pertains generally to the field of speech processing, and more specifically to methods and apparatus for predictively quantizing voiced speech.

Background

[0003] Transmission of voice by digital techniques has become widespread, particularly in long distance and digital radio telephone applications. This, in turn, has created interest in determining the least amount of information that can be sent over a channel while maintaining the perceived quality of the reconstructed speech. If speech is transmitted by simply sampling and digitizing, a data rate on the order of sixty-four kilobits per second (kbps) is required to achieve a speech quality of conventional analog telephone. However, through the use of speech analysis, followed by the appropriate coding, transmission, and resynthesis at the receiver, a significant reduction in the data rate can be achieved.

[0004] Devices for compressing speech find use in many fields of telecommunications. An exemplary field is wireless communications. The field of wireless communications has many applications including, e.g., cordless telephones, paging, wireless local loops, wireless telephony such as cellular and PCS telephone systems, mobile Internet Protocol (IP) telephony, and satellite communication systems. A particularly important application is wireless telephony for mobile subscribers.